What is claimed is:

1. A method for delivering permeant substances through a biological membrane of an animal comprising forming at least one delivery opening in the membrane, said at least one delivery opening having a mean opening depth of between about 40 and about 90 microns.

2. The method of claim 1 wherein the at least one delivery opening has a mean opening depth of about 50 and about 70 microns.

3. The method of claim 2 wherein the at least one delivery opening has a mean opening depth of about 55 to 65 about microns.

4. The method of claim 3 wherein the at least one delivery opening has a mean opening depth of about 60 microns.

5. The method of claim 1 wherein the at least one delivery opening has a mean opening depth of about 90 microns.

6. The method of claim 1 wherein a plurality of delivery openings are formed in the skin tissue, the opening depth of a majority of said delivery openings falling within the range of

about 40 and about 90 microns.

7. The method of claim 6 wherein the opening depth of a majority of said delivery openings falls within the range of about 50 to about 70 microns.

8. The method of claim 7 wherein 75% of said delivery openings have a opening depth falling within the range of about 50 to about 70 microns.

9. The method of claim 8 wherein 75% of said delivery openings have a opening depth falling within the range of about 55 microns to about 65 microns.

10. The method of claim 6 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 50 microns to about 70 microns.

11. The method of claim 10 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 60 microns.

12. The method of claim 6 wherein said delivery openings have

a range of opening depths falling within one standard deviation of about 90 microns.

13. The method of claim 1 wherein said at least one delivery opening is formed by a planar array microporation device.

14. The method of claim 1 wherein said at least one delivery opening is formed by a microporator selected from the group consisting of a heated probe element capable of conductively delivering thermal energy via direct contact to a biological membrane to cause the ablation of some portion of the membrane deep enough to form a micropore, the heated probe comprising an electrically heated resistive element capable of ablating a biological membrane or an optically heated topical dye/absorber layer, electro-mechanical actuator, a microlancet, an array of microneedles (solid or hollow), microprojections, microcstructures or lancets, a sonic energy ablator, a laser ablation system, and a high pressure fluid jet puncturer.

15. The method of claim 1 wherein said at least one delivery opening is formed by microporation conducted with positive pressure being present between a microporator and said membrane.

16. The method of claim 15 wherein said positive pressure is applied manually by pressing down on said microporator when being activated.

17. The method of claim 15 wherein said positive pressure results from a vacuum of about 0.25 to about 0.80 bar being applied between said microporator and said membrane.

18. The method of claim 17 wherein said vacuum is about 0.50 bar.

19. The method of claim 1 wherein said delivery of said permeant substance results in a blood serum profile for said permeant substance that mimics a blood serum profile as if the permeant substance had been delivered subcutaneously.

20. The method of claim 1 wherein said biological membrane is skin.

21. A method for delivering drugs transdermally into a biological membrane of an animal comprising forming a plurality of delivery openings through a membrane, wherein said delivery openings have a distribution resulting in a bell-shaped curve with

said delivery openings having a mean opening depth of between about 40 and about 90 microns.

22. The method of claim 21 wherein said delivery openings have a mean opening depth of about 50 and about 70 microns.

23. The method of claim 22 wherein said delivery openings have a mean opening depth of about 55 to about 65 microns.

24. The method of claim 23 wherein said delivery openings have a mean opening depth of about 60 microns.

25. The method of claim 21 wherein said delivery openings have a mean opening depth of about 90 microns.

26. The method of claim 21 wherein a majority of said delivery openings have a mean opening depth falling within the range of about 40 and about 90 microns.

27. The method of claim 26 wherein the opening depth of a majority of said delivery openings falls within the range of about 50 to about 70 microns.

28. The method of claim 27 wherein 75% of said delivery openings have a opening depth falling within the range of about 50 to about 70 microns.

29. The method of claim 28 wherein 75% of said delivery openings have a opening depth falling within the range of about 55 microns to about 65 microns.

30. The method of claim 26 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 50 microns to about 70 microns.

31. The method of claim 30 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 60 microns.

32. The method of claim 21 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 90 microns.

33. The method of claim 21 wherein said delivery openings is formed by a planar array microporation device.

34. The method of claim 21 wherein said delivery openings are formed by a microporator selected from the group consisting of a heated probe element capable of conductively delivering thermal energy via direct contact to a biological membrane to cause the ablation of some portion of the membrane deep enough to form a micropore, the heated probe comprising an electrically heated resistive element capable of ablating a biological membrane or an optically heated topical dye/absorber layer, electro-mechanical actuator, a microlancet, an array of microneedles (solid or hollow), microprojections, microcstructures or lancets, a sonic energy ablator, a laser ablation system, and a high pressure fluid jet puncturer.

35. The method of claim 21 wherein said delivery openings are formed by microporation conducted with positive pressure being present between a microporator and said membrane.

36. The method of claim 35 wherein said positive pressure is applied manually by pressing down on said microporator when being activated.

37. The method of claim 35 wherein said positive pressure results from a vacuum of about 0.25 to about 0.80 bar being applied

between said microporator and said membrane.

38. The method of claim 37 wherein said vacuum is about 0.50 bar.

39. The method of claim 21 wherein said delivery of said permeant substance results in a blood serum profile for said permeant substance that mimics a blood serum profile as if the permeant substance had been delivered subcutaneously.

40. The method of claim 21 wherein said biological membrane is skin.

41. A method for evaluating the effectiveness of a microporator comprising the steps of: forming at least one delivery opening in a biological membrane of a mammal using said microporator, delivering a permeant substance across the area of the membrane with said at least one delivery opening, measuring the steady state serum concentration for said permeant substance, measuring the trans-epidermal water loss across the membrane of the mammal, and comparing the results of said measurements with known values for each which provide desired results.

42. The method of claim 41 wherein said at least one delivery opening has a mean opening depth of between about 40 and about 90 microns.

43. The method of claim 41 wherein the at least one delivery opening has a mean opening depth of about 50 and about 70 microns.

44. The method of claim 43 wherein the at least one delivery opening has a mean opening depth of about 55 to about 65 microns.

45. The method of claim 44 wherein the at least one delivery opening has a mean opening depth of about 60 microns.

46. The method of claim 41 wherein said at least one delivery opening has a mean opening depth of about 90 microns.

47. The method of claim 41 wherein a plurality of delivery openings are formed in the biological membrane, the opening depth of a majority of said delivery openings falling within the range of about 40 and about 90 microns.

48. The method of claim 47 wherein the opening depth of a majority of said delivery openings falls within the range of about

50 to about 70 microns.

49. The method of claim 48 wherein 75% of said delivery openings have a opening depth falling within the range of about 50 to about 70 microns.

50. The method of claim 49 wherein 75% of said delivery openings have a opening depth falling within the range of about 55 microns to about 65 microns.

51. The method of claim 47 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 50 microns to about 70 microns.

52. The method of claim 51 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 60 microns.

53. The method of claim 41 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 90 microns.

54. The method of claim 41 wherein said at least one delivery

opening is formed by a planar array microporation device.

55. The method of claim 41 wherein said at least one delivery opening is formed by a microporator selected from the group consisting of a heated probe element capable of conductively delivering thermal energy via direct contact to a biological membrane to cause the ablation of some portion of the membrane deep enough to form a micropore, the heated probe comprising an electrically heated resistive element capable of ablating a biological membrane or an optically heated topical dye/absorber layer, electro-mechanical actuator, a microlancet, an array of microneedles (solid or hollow), microprojections, microcstructures or lancets, a sonic energy ablator, a laser ablation system, and a high pressure fluid jet puncturer.

56. The method of claim 41 wherein said biological membrane is skin.

57. A method for evaluating the effectiveness of a microporator comprising the steps of: forming a plurality of delivery openings in a biological membrane of a mammal using said microporator, delivering a permeant substance across the area of the membrane with said at least one delivery opening, measuring the

steady state serum concentration for said permeant substance, measuring the trans-epidermal water loss across the membrane of the mammal, and comparing the results of said measurements with known values for each which provide desired results, wherein said plurality of openings has a distribution resulting in a bell-shaped curve with said plurality of delivery openings having a mean opening depth of between about 40 and about 90 microns.

58. The method of claim 57 wherein said delivery openings have a mean opening depth of about 50 and about 70 microns.

59. The method of claim 58 wherein said delivery openings have a mean opening depth of about 55 to 65 microns.

60. The method of claim 59 wherein said delivery openings have a mean opening depth of about 60 microns.

61. The method of claim 57 wherein said delivery openings have a mean opening depth of about 90 microns.

62. The method of claim 57 wherein a majority of said delivery openings have a mean opening depth falling within the range of about 40 and about 90 microns.

63. The method of claim 62 wherein the opening depth of a majority of said delivery openings falls within the range of about 50 to about 70 microns.

64. The method of claim 63 wherein 75% of said delivery openings have a opening depth falling within the range of about 50 to about 70 microns.

65. The method of claim 64 wherein 75% of said delivery openings have a opening depth falling within the range of about 55 microns to about 65 microns.

66. The method of claim 62 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 50 microns to about 70 microns.

67. The method of claim 66 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 60 microns.

68. The method of claim 62 wherein said delivery openings have a range of opening depths falling within one standard deviation of about 90 microns.

69. The method of claim 57 wherein said plurality of delivery openings is formed by a planar array microporation device.

70. The method of claim 57 wherein said plurality of delivery openings is formed by a microporator selected from the group consisting of a heated probe element capable of conductively delivering thermal energy via direct contact to a biological membrane to cause the ablation of some portion of the membrane deep enough to form a micropore, the heated probe comprising an electrically heated resistive element capable of ablating a biological membrane or an optically heated topical dye/absorber layer, electro-mechanical actuator, a microlancet, an array of microneedles (solid or hollow), microprojections, microcstructures or lancets, a sonic energy ablator, a laser ablation system, and a high pressure fluid jet puncturer.

71. The method of claim 57 wherein said plurality of delivery openings is formed by microporation conducted with positive pressure being present between a microporator and said membrane.

72. The method of claim 71 wherein said positive pressure is applied manually by pressing down on said microporator when being activated.

73. The method of claim 71 wherein said positive pressure results from a vacuum of about 0.25 to about 0.80 bar being applied between said microporator and said membrane.

74. The method of claim 73 wherein said vacuum is about 0.50 bar.

75. The method of claim 57 wherein said biological membrane is skin.

76. The method of claim 1 wherein said permeant is insulin.

77. The method of claim 1 wherein said permeant is hydromorphone.

78. The method of claim 21 wherein said permeant is insulin.

79. The method of claim 21 wherein said permeant is hydromorphone.

80. The method of claim 41 wherein said permeant is insulin.

81. The method of claim 41 wherein said permeant is hydromorphone.